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**The impact of gender imbalance on women's education and migratory decisions: evidence from  
Mexico**

Itzel De Haro López  
University of Wisconsin-Madison  
deharolopez@wisc.edu

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# The impact of gender imbalance on women's education and migratory decisions: evidence from Mexico

Itzel De Haro López  
University of Wisconsin-Madison



## Motivation

- Extensive male migration to the U.S. has led to relative scarcity of men in rural communities
- Skewed sex ratios has decreased the probability of marriage for women in sending communities and to secure future income through marriage
- As a compensating mechanism, women can decide to study more or migrate
- Very few studies have researched women's migratory decisions and often it has been explained as a passive reaction to male migratory decisions

## Objective

To study Mexican females' decisions to migrate locally and invest in human capital when international migration has led to higher uncertainty in the marriage market

## Data

- Mexican Family Life Survey (MXFLS)
  - First survey that follows migrants (incl. the U.S.)
  - Panel data for three waves: 2002, 2005 and 2009
  - **Sample: women 18-30 years old**
  - N = 8,289
- Mexican National Census (1990, 2000) & Intercensal Survey (2005)
  - Sex ratios at the municipal level estimated from 10% samples
- Matrículas consulares (2002-2010):
  - Information on issued ID's at Mexican Consulates in the U.S.
  - Includes place of birth and residence in the U.S.
  - ~ 40% of Mexicans in the U.S. has the ID
  - Mostly used by illegal immigrants in the U.S.
- American Community Survey (2002-2005)

## Empirical strategy

### Human Capital Acquisition

- The impact on high school attendance and number of years of education is measured using:

$$Y_{im} = \beta_0 + \beta_1 \left( \frac{F}{M} \right)_{m,t_{15}} + \beta_2 X_{im,t_{15}} + \delta_m + \gamma_{t_{15}} + \varepsilon_{im}$$

- $\left( \frac{F}{M} \right)_{m,t_{15}}$  ≡ Female/Male ratio for people age 18-30 observed at age 15 ( $t_{15}$ ) in municipality  $m$
- $X_{im,t_{15}}$ : individual socioeconomic characteristics
- $\delta_m, \gamma_{t_{15}}$  are municipal and cohort fixed effects

### Migration

- The impact in migration is measured as the likelihood that a women age 18-30 changes residency between each wave

$$I_{imt} = \alpha_0 + \alpha_1 \left( \frac{F}{M} \right)_{mt} + \alpha_2 X_{imt} + \delta_m + \eta_t + \epsilon_{imt}$$

- $I_{imt}$ : binary variable equal to one if the individual changed residency
- $\left( \frac{F}{M} \right)_{mt}$  is the sex ratio present at municipality  $m$  and time  $t$
- $\eta_t$  are time fixed effects

## Instrument

Predicted migration to the U.S. from state  $s$  is used to control for the endogeneity of the Female/Male ratio (Conover et al., 2018):

$$P_{ast} = \frac{\sum_{g=1}^{51} M_{gt} \tau_{gat} \lambda_{gs}}{N_{ast}}$$

- $M_{gt}$ : number of Mexicans residing in U.S. state  $g$  at time  $t$
- $\tau_{gat}$ : fraction of Mexican male population in U.S. state  $g$  that belong to the age group  $a$  (18-30 years old) [*Pull Effect*]
- $\lambda_{gs}$ : fraction of Mexicans in the U.S. state  $g$  that come from the Mexican state  $s$  [*Network component*]
- $N_{ast}$ : number of Mexican men in the age group  $a$  residing in state  $s$

## Migration Intensity

Number of Consular ID's issued by state of birth (2004)



## Results

- 1 Women have lower attendance to high school
- 2 In turn, women in more municipalities where women are predominant, study less
- 3 They are also less likely to migrate domestically
- 4 Impact is only present in rural municipalities

## References

- Conover, E., Khamis, M. & Pearlman, S. (2018). Reversed Migration Trends and Local Labor Markets.
- Mckenzie, D. & Rapoport, H. (2006). Network effects and the dynamics of migration and inequality: theory and evidence from Mexico. Development Research Group. The World Bank.

Contact: deharolopez@wisc.edu